

Arctic Council Status on Implementation of the AMSA 2009 Report Recommendations

APRIL 2015







Arctic Council

**Status on Implementation of the
AMSA 2009 Report Recommendations**

APRIL 2015

SEA ADVENTURER

6M
58
56
54
52
5M
48
46

Guide to Acronyms and Abbreviations

<u>ACRONYM</u>	<u>DEFINITION</u>	<u>ACRONYM</u>	<u>DEFINITION</u>
AECO	Association of Arctic Expedition Cruise Operators	IMO	International Maritime Organization
AIA	Aleut International Association	IMSO	International Maritime Satellite Organization
AIS	Automatic Identification System	IWC	International Whaling Commission
AMAP	Arctic Monitoring and Assessment Program (Arctic Council Working Group)	LRIT	Long Range Identification and Tracking
AMATII	Arctic Maritime and Aviation Transportation Infrastructure Initiative	MARPOL	International Convention for the Prevention of Pollution from Ships
AMSA	Arctic Marine Shipping Assessment	MEPC	Marine Environment Protection Committee
AMTP	Arctic Marine Tourism Project	MPA	marine protected area
AmverNet	Automated Mutual Assistance Vessel Rescue Network	MSC	Maritime Safety Committee
AOOGG	Arctic Offshore Oil and Gas Guidelines	NGO	non-governmental organization
AOR	Arctic Ocean Review	NOx	nitrogen oxide
ARHC	Arctic Regional Hydrographic Commission	NSR	Northern Sea Route
BIMCO	Baltic and International Maritime Council	PAME	Protection of the Arctic Marine Environment (Arctic Council Working Group)
CAFF	Conservation of Arctic Flora and Fauna (Arctic Council Working Group)	PM	particulate matter
CBD	Convention on Biological Diversity	RP3	Recommended Practices for Arctic Oil Spill Prevention
CMTS	Committee on the Marine Transportation System	SAO	Senior Arctic Official
DNV	Det Norske Veritas	SAR	search and rescue
EBSA	Ecologically or Biologically Significant Marine Area	SARiNOR	Search and Rescue in the High North
EPPR	Emergency Prevention, Preparedness and Response (Arctic Council Working Group)	SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
ERMA	Environmental Response Management Application	SDWG	Sustainable Development Working Group (Arctic Council Working Group)
GHG	greenhouse gas	SONS	Spill of National Significance
GSIS	Global Integrated Shipping Information System	SOx	sulfur oxide
HFO	heavy fuel oil	SRS	ship reporting system
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities	TFOPP	Task Force on Oil Pollution Prevention (Arctic Council Task Force)
ICC	Inuit Circumpolar Council	VOS	Voluntary Observing Ship scheme
ICES	International Council for the Exploration of the Sea	WMO	World Meteorological Organization
IHO	International Hydrographic Organization	WMU	World Maritime University
IICWG	International Ice Charting Working Group		



Table of Contents

2	Executive Summary
4	Status of Progress on Recommendations
4	THEME I — Enhancing Arctic Marine Safety
4	I(A). Linking with International Organizations
5	I(B). IMO Measures for Arctic Shipping
6	I(C). Uniformity of Arctic Shipping Governance
6	I(D). Strengthening Passenger Ship Safety in Arctic Waters
7	I(E). Arctic Search and Rescue (SAR) Instrument
8	THEME II — Protecting Arctic People and the Environment
8	II(A). Survey of Arctic Indigenous Marine Use
9	II(B). Engagement with Arctic Communities
10	II(C). Areas of Heightened Ecological and Cultural Significance
11	II(D). Specially Designated Arctic Marine Areas
12	II(E). Protection from Invasive Species
13	II(F). Oil Spill Prevention
14	II(G). Addressing Impacts on Marine Mammals
15	II(H). Reducing Air Emissions
16	THEME III — Building the Arctic Marine Infrastructure
16	III(A). Addressing the Infrastructure Deficit
17	III(B). Arctic Marine Traffic System
18	III(C). Circumpolar Environmental Response Capacity
19	III(D). Investing in Hydrographic, Meteorological and Oceanographic Data





© Arctic Shipping

EXECUTIVE SUMMARY

The 2015 Progress Report on Implementation of the 2009 Arctic Marine Shipping Assessment (AMSA) Report Recommendations (the 2015 Progress Report) is the third biennial effort by the Arctic Council’s Working Group on the Protection of the Arctic Marine Environment (PAME) to document and track progress in implementing the 17 recommendations in the AMSA Report approved by Arctic Council Ministers.

Six years after its original publication, the AMSA Report continues to resonate as both a comprehensive and an authoritative analysis on the subject of Arctic shipping. Under the leadership of Canada, Finland and the United States, the AMSA Report focused on ships, their uses of the Arctic Ocean, their potential impacts on humans and the Arctic marine environment, and their marine infrastructure requirements.

As with the two previous AMSA Progress Reports, the 2015 Progress Report once again uses the original AMSA recommendations as markers against which progress by the greater community of Arctic stakeholders is measured. While primarily focused on joint efforts made by Arctic States acting through various international or regional fora, the report also highlights examples of individual Arctic State initiatives, as well as certain efforts by Permanent Participants, industry associations and NGOs operating in the Arctic. Inasmuch as the content captured within this report acknowledges success and progress in several areas, the 2015 Progress Report should not be seen as exhaustive nor should it divert attention away from areas where additional work remains to be done.

Evidence of both the rate of change and corresponding international interest in the Arctic Region is reflected in the diversity of efforts and initiatives noted within this report. In November 2014, the International Maritime Organization's (IMO) Maritime Safety Committee approved the mandatory safety components of the Polar Code, a significant achievement in an ongoing effort to address the range of safety and environmental protection matters for ships operating in the Polar Regions. Elsewhere in the IMO, progress is also being made to prevent the transfer of invasive species through both ballast water exchange and biofouling, to mitigate the impact of underwater noise from ships on marine mammals, and to manage black carbon emissions.

The past two years have been witness to significant events and changes related to the volume, type and composition of Arctic shipping. During the 2013 summer navigation season the first ever eastward transit of a commercial bulk carrier along the Northwest Passage occurred, followed just one year later by a similar historic westward transit by another commercial bulk carrier. While the viability of regular commercial transits through the Northwest Passage remains

subject to a range of factors (not least of which include prevailing weather and sea ice conditions) interest by shipping companies in its potential utility remains. By point of comparison, the Northern Sea Route (NSR) Administration Office identified 31 complete transits along the NSR during the 2014 navigation season — a marked decrease when viewed against the record-breaking 2013 navigation season that saw 71 complete transits.

Multiple reasons can account for this change, though the difference in transit numbers along the NSR helps to underscore the risks and unpredictability so regularly associated with shipping in much of the Arctic Region. Accordingly, looking beyond the parameters of this Progress Report it is difficult to speculate on how shipping activity in the Arctic Region will evolve, as much of it influenced not just by potential accessibility resulting from changing environmental conditions, but also by larger geopolitical and commodity market considerations. The evolution of future Arctic Council initiatives and projects to further advance the AMSA recommendations is similarly difficult to predict and will no doubt reflect in part these changing patterns of shipping.



STATUS OF PROGRESS ON RECOMMENDATIONS¹

THEME I — Enhancing Arctic Marine Safety



© Håkon Kjellmoen

I(A). Linking with International Organizations

“That the Arctic states decide to, on a case by case basis, identify areas of common interest and develop unified positions and approaches with respect to international organizations such as: the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), the World Meteorological Organization (WMO) and the International Maritime Satellite Organization (IMSO) to advance the safety of Arctic marine shipping; and encourage meetings, as appropriate, of member state national maritime safety organizations to coordinate, harmonize and enhance the implementation of the Arctic maritime regulatory framework.”

Lead State and Partners	Status of Recommendation I(A)
<p>PAME, IALA, ICES</p>	<p>At PAME’s invitation, representatives of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the International Council for the Exploration of the Sea (ICES) made presentations at PAME meetings that focused on areas of common interest and opportunities for collaboration and cooperation. IALA submitted a paper to PAME proposing specific areas for collaboration and cooperation in fall 2014 that PAME has decided to further explore and pursue as appropriate.</p>
<p>PAME, ARHC</p>	<p>PAME and the Arctic Regional Hydrographic Commission (ARHC) continued to focus on areas of common interest, in particular on surveying and charting in the Arctic Region. At PAME’s invitation, the ARHC submitted information on Arctic hydrography and nautical charting, made a presentation on the subject at PAME’s September 2014 meeting, and is working to collect and analyze Arctic information that relates to safe and efficient marine navigation.</p>
<p>PAME</p>	<p>PAME is exploring how it might support the ARHC by facilitating the provision of hydrographic and bathymetric data.</p>
<p>WMU, IMO, PAME</p>	<p>With the IMO and the World Maritime University (WMU), PAME agreed to co-sponsor and support the development of an international conference on “Safe and Sustainable Shipping in a Changing Arctic Environment” (ShipArc 2015) scheduled for August 2015.</p>
<p>IMO, Arctic Council</p>	<p>The IMO Secretary General gave a presentation on the Polar Code at the March 2014 Senior Arctic Officials Meeting.</p>

Continued on the next page

1. Neither this Report nor the information it contains constitutes an assessment by any PAME member government of the consistency with international law, including the Law of the Sea, of domestic laws, regulations or other measures or resolutions identified or referenced herein.

I(A). Linking with International Organizations *(continued from the previous page)*

Lead State and Partners	Status of Recommendation I(A)
<p>Canada</p> <p>Finland</p>	<p>Canada is delivering meteorological and navigational warning services for the two MET/NAV areas of the Arctic Ocean for which it accepted responsibility (MET/NAV areas XVII and XVIII) to promote safe navigation in Arctic waters. Through this initiative Canada has put in place year-round standardized and coordinated coverage of these areas and has coordinated with international partners who are responsible for the three adjacent Arctic MET/NAV areas.</p> <p>Finland submitted an information paper (MSC 93/INF.12) to the IMO’s Marine Safety Committee to inform the Committee of the outcome of the Workshop on Safe Ship Operations in the Arctic Ocean, held at IMO Headquarters on 28 February 2014.</p>

I(B). IMO Measures for Arctic Shipping

“That the Arctic states, in recognition of the unique environmental and navigational conditions in the Arctic, decide to cooperatively support efforts at the International Maritime Organization to strengthen, harmonize and regularly update international standards for vessels operating in the Arctic. These efforts include:

- *Support the updating and the mandatory application of relevant parts of the Guidelines for Ships Operating in Arctic Ice-covered Waters (Arctic Guidelines); and,*
- *Drawing from IMO instruments, in particular the Arctic Guidelines, augment global IMO ship safety and pollution prevention conventions with specific mandatory requirements or other provisions for ship construction, design, equipment, crewing, training and operations, aimed at safety and protection.”*

Lead State and Partners	Status of Recommendation I(B)
<p>PAME</p> <p>PAME (Norway, Russian Federation and USA as co-leads)</p> <p>PAME (Norway, Finland, Russian Federation and USA as co-leads), IMO</p> <p>Norway, Russian Federation</p>	<p>PAME continued to monitor IMO’s development of a mandatory code for ships operating in polar waters (Polar Code) and through its Records of Decision encouraged member governments to intensify their collaboration with respect to the finalization of the Polar Code. PAME also continued to support and encourage Arctic States to meet in advance of IMO committee and sub-committee meetings of relevance to the Polar Code.</p> <p>PAME completed Phase II of a multi-year project to identify risks associated with vessel use and carriage of heavy fuel oil (HFO) in the Arctic, possible effects on the environment of an HFO spill, and options for minimizing those risks. Based on the final HFO Phase II Report, PAME considered recommendations put forward in a consultant’s report for its member governments to consider pursuing at IMO.</p> <p>At PAME’s invitation, a representative of the IMO Secretariat attended a PAME workshop in Reykjavik in June 2013 to give a talk and provide guidance on how IMO measures (MARPOL Special Areas and Particularly Sensitive Sea Areas) could be used to protect the marine environment in the Arctic high seas.</p> <p>In 2012, Norway and Russia submitted a joint proposal to IMO for a new mandatory ship reporting system for the Barents Region (Barents SRS). The Barents SRS was adopted by IMO’s Maritime Safety Committee at its 91st Session and entered into force in June 2013.</p>

I(C). Uniformity of Arctic Shipping Governance

“That the Arctic states should explore the possible harmonization of Arctic marine shipping regulatory regimes within their own jurisdiction and uniform Arctic safety and environmental protection regulatory regimes, consistent with UNCLOS, that could provide a basis for protection measures in regions of the central Arctic Ocean beyond coastal state jurisdiction for consideration by the IMO.”

Lead State and Partners	Status of Recommendation I(C)
<p>PAME</p> <p>PAME (USA, Russia, Canada, Finland, Kingdom of Denmark and Norway)</p>	<p>PAME initiated the development of follow-up actions for the marine operation and shipping recommendations contained in the AOR Final Report approved at the 2013 Arctic Ministerial Meeting.</p>
<p>Arctic Council</p>	<p>PAME member governments developed a draft format and outline for the development of a regional reception facilities plan relevant to the Arctic based on applicable IMO guidelines for consideration by Arctic States.</p>
<p>Arctic States</p>	<p>The Arctic Council Task Force on Oil Pollution Prevention (TFOPP) developed a Framework Plan for adoption at the 2015 Ministerial Meeting with the objective of strengthening cooperation, including the exchange of information, among the participants and their competent national authorities.</p>
<p>Arctic Economic Council</p>	<p>An informal executive level meeting took place in September 2014 to further discuss the concept of formally establishing an Arctic Coast Guard Forum. A follow-up meeting at the working level, co-led by Canada and the United States, is scheduled for spring 2015.</p>
	<p>The Arctic Economic Council met for the first time in September 2014 and focused, <i>inter alia</i>, on business activities and economic development related to maritime transportation in the Arctic Region.</p>

I(D). Strengthening Passenger Ship Safety in Arctic Waters

“That the Arctic states should support the application of the IMO’s Enhanced Contingency Planning Guidance for Passenger Ships Operating in Areas Remote from SAR Facilities, given the extreme challenges associated with rescue operations in the remote and cold Arctic region; and strongly encourage cruise ship operators to develop, implement and share their own best practices for operating in such conditions, including consideration of measures such as timing voyages so that other ships are within rescue distance in case of emergency.”

Lead State and Partners	Status of Recommendation I(D)
<p>PAME (Canada and USA as co-leads)</p>	<p>PAME’s Arctic Marine Tourism Project (AMTP) developed voluntary, non-binding best practice guidelines for Arctic marine tourism to advance sustainable economic development and environmental conservation. The draft best practice guidelines, submitted for adoption by Arctic Ministers in 2015, were the product of two international workshops and input from a diverse cross-section of Arctic stakeholders including other Arctic Council Working Groups, industry, indigenous and Arctic communities, local and regional governments, and academia.</p>
<p>Canada, Norway, United States, Kingdom of Denmark</p>	<p>Member governments submitted information papers to PAME’s February 2014 meeting on their domestic rules and policies pertaining to Arctic cruise tourism as background and context for the AMTP.</p>
<p>Canada</p>	<p>A Transport Canada commissioned report entitled “Strategies for Managing Arctic Pleasure Craft Tourism: A Scoping Study” was released in August 2013.</p>
<p>AECO</p>	<p>The Secretary General of the Association of Arctic Expedition Cruise Operators (AECO) made a presentation to PAME on how its members address voyage planning (including possible contingencies) and coordinate with each other and with shore-based administrations.</p>



© AECO/Polar Quest

I(E). Arctic Search and Rescue (SAR) Instrument

“That the Arctic states decide to support developing and implementing a comprehensive, multi-national Arctic Search and Rescue (SAR) instrument, including aeronautical and maritime SAR, among the eight Arctic nations and, if appropriate, with other interested parties in recognition of the remoteness and limited resources in the region.”

Lead State and Partners	Status of Recommendation I(E)
<p>EPPR</p> <p>EPPR</p> <p>EPPR</p>	<p>Based on updates from the Kingdom of Denmark, EPPR has discussed the lessons learned from the two search and rescue (SAR) exercises hosted by the Kingdom of Denmark in addition to SAR exercises hosted by the Russian Federation.</p> <p>EPPR followed up on a March 2013 request from the executive SAO meeting in Yellowknife on coordination and practical implementation of the SAR Agreement and the Agreement on Marine Oil Pollution Preparedness and Response in the Arctic.</p> <p>EPPR finalized the pilot project “Automated Mutual Assistance Vessel Rescue Network” (AmverNet). The project has its own regional ship reporting system and utilizes Automatic Identification System (AIS) and Long Range Identification and Tracking (LRIT) data for search and rescue. While each nation has its own process for managing maritime emergencies in the Arctic, Amver data is available in an emergency and is an additional tool that can be used when managing search and rescue cases in the Arctic.</p>
<p>Kingdom of Denmark</p>	<p>Greenland hosted SAR exercises in 2013 in the Greenland Sea. The exercises consisted of both an open sea search operation and an in-fjord cruise ship rescue and evacuation operation, building on lessons learned from the previous year’s SAR exercise.</p>
<p>Norway</p>	<p>Norway updated the EPPR I -2013 meeting about the SARiNOR (Search and Rescue in the High North) project. The project was launched in 2013 and is still ongoing. The idea behind the project is, among other things, to clarify challenges related to SAR in northern areas/Arctic and identify the needs for SAR capabilities, make existing resources more effective, develop new concepts for SAR, and identify possible R&D projects related to SAR.</p>
<p>IICWG</p>	<p>International Ice Charting Working Group (IICWG) meetings in 2013 and 2014 (Reykjavik and Punta Arenas) focused attention on emergency response (SAR and environmental response), the corresponding role played by the world’s ice services, and how best these ice services can be engaged with emergency service providers.</p>

THEME II — Protecting Arctic People and the Environment



© Fechner Limited

II(A). Survey of Arctic Indigenous Marine Use

“That the Arctic states should consider conducting surveys on Arctic marine use by indigenous communities where gaps are identified to collect information for establishing up-to-date baseline data to assess the impacts from Arctic shipping activities.”

Lead State and Partners

SDWG (ICC-Canada, Canada, US, and the Kingdom of Denmark)

AIA

USA

Status of Recommendation II(A)

Phase II of the SDWGs “A Circumpolar-Wide Inuit Response to the AMSA” (a deliverable for the 2015 Arctic Council Ministerial) broadened the consultative process with Inuit communities in carrying out an expanded survey to assess their current use of the sea and how it compares with records from early land and marine use studies. The expanded surveys have been extended to cover Greenland, Russia (Chukotka), the United States (Alaska), as well as broader surveys with Canadian Inuit.

The Aleut International Association (AIA) made a presentation to PAME’s September 2013 meeting on the “Arctic Marine Subsistence Use Mapping: Tools for Communities” project and subsequently submitted a paper for PAME’s consideration during PAME’s February 2014 meeting with the same title which was published in the fall of 2013.

The USA’s Bureau of Ocean Energy Management funded several research studies, including:

- The Study of Sharing Networks to Assess the Vulnerabilities of Local Communities to Oil and Gas Development Impacts in Arctic Alaska, 2007–2013
- Social Indicators in Coastal Alaska: Arctic Communities, 2011–2012
- Continuation of Impact Assessment for Cross Island Whaling Activities — Beaufort Sea, 2008–2013
- Subsistence Use and Knowledge of Salmon in Barrow and Nuiqsut, 2009–2013
- Aggregate Effects Research & Environmental Mitigation Monitoring of Oil Operations in the Vicinity of Nuiqsut, 2009–2013
- Traditional Knowledge Implementation: Accessing Arctic Community Panels of Subject Matter Experts FY 2015
- Subsistence Mapping of Wainwright, Point Lay, Point Hope, and Atqasuk. FY 2015



© Lee Narraway/Students on Ice

© Sesselja Bjarnadóttir



II(B). Engagement with Arctic Communities

“That the Arctic states decide to determine if effective communication mechanisms exist to ensure engagement of their Arctic coastal communities and, where there are none, to develop their own mechanisms to engage and coordinate with the shipping industry, relevant economic activities and Arctic communities (in particular during the planning phase of a new marine activity) to increase benefits and help reduce the impacts from shipping.”

Lead State and Partners	Status of Recommendation II(B)
PAME, AIA, USA	A project proposal entitled “Meaningful Engagement of Indigenous Peoples and Local Communities in Marine Activities” was approved during PAME’s February 2015 meeting. The project will prepare a narrative report with a compilation of information on existing mechanisms, processes, recommendations, and guidelines for engagement of indigenous peoples and local communities in marine activities that have been developed by the Arctic Council, States, international bodies, communities, industry and other stakeholders and is expected to include legal mandates, declarations, guidelines, recommendations, best practices and lessons learned in the Arctic. The project is scheduled to be finalized in 2016.
EPPR	In 2014, EPPR approved a project proposal on “Emergency Prevention, Preparedness and Response in small communities.” A scoping workshop is planned for spring 2015 and the output from the workshop will be used to elaborate the details of the project.
Canada	Canada submitted a paper to PAME’s February 2014 meeting on industry engagement with Arctic communities in which the experiences of Fednav Ltd. and Petro-Nav were highlighted.
Canada	The Canadian Ice Service is engaged in a three year pilot project examining the requirements for enhanced community based ice information for the purposes of reducing the incidence of SAR cases as well as assisting community members with their decision making regarding their work, life and cultural events on and around the fast ice surrounding their community.

II(C). Areas of Heightened Ecological and Cultural Significance

“That the Arctic states should identify areas of heightened ecological and cultural significance in light of changing climate conditions and increasing multiple marine use and, where appropriate, should encourage implementation of measures to protect these areas from the impacts of Arctic marine shipping, in coordination with all stakeholders and consistent with international law.”

Lead State and Partners

PAME

CBD in collaboration
with Finland and CAFF

SDWG (ICC-Canada,
Canada, US, and the
Kingdom of Denmark)

Status of Recommendation II(C)

PAME received and acknowledged the valuable contributions of the information contained in the report prepared by AMAP, CAFF, and SDWG titled “Identification of Arctic marine areas of heightened ecological and cultural significance: Arctic Marine Shipping Assessment (AMSA) IIc.” The report is available on [AMAP’s website](#).

In March 2014, the Convention on Biological Diversity (CBD) Secretariat held a workshop in Helsinki, Finland in collaboration with the Arctic Council CAFF working group that considered Ecologically or Biologically Significant Marine Areas (EBSAs) in the Arctic Region. The *final workshop report* concluded with a recommendation to submit 11 EBSA candidates to the 18th meeting of the CBD’s Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA). Two of these are located in the areas beyond national jurisdiction (the ‘marginal ice zone and the seasonal ice-cover over the deep Arctic Ocean’ and the ‘multi-year ice of the Central Arctic Ocean’) and nine in the territorial waters of the Russian Federation.

Phase I of ICC-Canada’s “A Circumpolar-Wide Inuit Response to AMSA” project (a deliverable for the 2015 Arctic Council Ministerial) brought together a variety of stakeholders including representatives of Inuit communities from across the Arctic to a March 2013 workshop. At this workshop AMSA findings and recommendations were communicated to Inuit participants and valuable engagement and guidance information was documented on how best to respond to the AMSA recommendations from a community perspective.





II(D). Specially Designated Arctic Marine Areas

“That the Arctic states should, taking into account the special characteristics of the Arctic marine environment, explore the need for internationally designated areas for the purpose of environmental protection in regions of the Arctic Ocean.”

Lead State and Partners	Status of Recommendation II(D)
<p>PAME</p> <p>PAME (Norway, Finland, Russian Federation and USA as co-leads) aided by DNV</p>	<p>Based on the final AMSA II(D) report commissioned by PAME from Det Norske Veritas (DNV) on options for international protection for the high seas of the Central Arctic Ocean, PAME member governments decided to take a number of interim steps before pursuing any actions relevant to IMO. These included developing a paper that explored ideas for making mariners aware of the ecological significance of and hazards to navigation posed by the globally unique drifting multi-year ice pack, such as NAVAREA warnings. At PAME’s February 2015 meeting an invitation was made to AMAP and CAFF to denote areas within the high seas of the Central Arctic ocean that are particularly vulnerable to international shipping activities, taking into account the AMSA II(c) Report and the CBD’s identification of two EBSAs within the area. PAME also continues to seek information on ship traffic within the high seas of the Central Arctic Ocean, and welcomed Norway’s offer to provide satellite AIS data for this area from 1 January 2015.</p> <p>At PAME’s request, DNV submitted a report on specially designated Arctic high seas marine areas to PAME’s February 2014 meeting. The report explores the need for protection of the high seas area and describes the traffic volume and vulnerability of the area. The report also reviews potentially available IMO measures suited to protect the vulnerable areas. Based on the report, PAME decided to explore whether, and if so how, international protection for the high seas areas of the Central Arctic Ocean might be pursued by Arctic States at IMO.</p>
<p>PAME</p> <p>Oceana</p>	<p>The role of the pan-Arctic MPA network, composed of individual Arctic State MPA networks, is to protect and restore marine biodiversity, ecosystem function and special natural features, and preserve cultural heritage resources. This non-binding Framework sets out a common vision for international cooperation in MPA network establishment and management based on international best practices and previous Arctic Council initiatives. It aims to support the efforts of Arctic States to develop their MPA networks and chart a course for future collaborative planning, management and actions for the conservation and protection of the Arctic marine environment. Following additional intercessional revisions to the Framework, the MPA Network Expert Group held a one-day workshop in Whitehorse, Canada in tandem with PAME’s September 2014 meeting. The workshop was attended by five Arctic States and focused primarily on describing the characteristics of the Pan-Arctic MPA Framework, including approaches particularly relevant in the Arctic, and short-term and longer-term recommended actions.</p> <p>Oceana presented a paper to PAME’s February 2013 meeting on mapping ecologically important sea areas in the Arctic. PAME adopted a record of decision inviting Oceana to submit its final paper to PAME when published.</p>



II(E). Protection from Invasive Species

“That the Arctic states should consider ratification of the IMO International Convention for the Control and Management of Ships Ballast Water and Sediments, as soon as practical. Arctic states should also assess the risk of introducing invasive species through ballast water and other means so that adequate prevention measures can be implemented in waters under their jurisdiction.”

Lead State and Partners

Arctic States

USA

IMO

Status of Recommendation II(E)

As of 12 February 2015, 44 States representing 32.86 % of the world tonnage have ratified the *International Convention for the Control and Management of Ships Ballast Water and Sediments*. Canada, Sweden, Norway, the Russian Federation, and the Kingdom of Denmark are parties to the Convention. Although it has not ratified the Convention, the USA has implemented domestic regulations for waters subject to its national jurisdiction that are consistent with the standards set forth therein.

The USA is undertaking the following steps with respect to the Implementation Plan for its National Strategy for the Arctic Region (issued January 2014). Objective: Develop, implement, and maintain an international invasive species prevention and management plan. Next steps in this process include:

- Identify and assess invasive species pathways, risks, and ecosystem and economic impacts to the Arctic Region by the end of 2015;
- Establish baseline conditions, prepare an early detection and rapid response plan to reduce the threat of invasive species, and gather information regarding effective management options by the end of 2015;
- Develop a comprehensive invasive species prevention, control, and management plan in accordance with existing requirements by the end of 2017;
- Initiate implementation of invasive species prevention and management plans through extensive consultation with stakeholders by the end of 2019;
- Explore becoming party to the *International Convention for the Control and Management of Ships’ Ballast Water and Sediments* (2004) in consideration of existing domestic regulations and standards by the end of 2014.

At the 65th meeting of IMO’s Marine Environmental Protection Committee (13–17 May 2013), Member States approved the Guidance for evaluating the 2011 Guidelines for the Control and Management of Ships’ Biofouling to minimize the transfer of invasive aquatic species (Resolution MEPC.207(62)). In June 2013 Member States were invited to bring the circular to the attention of all parties concerned.

IMO’s Strategic Plan for the Organization (2012 to 2017) contains 13 key strategic directions. Thematic priorities established by various IMO committees for the 2014-2015 biennium include “Strengthening national and regional capacity and fostering regional cooperation for the ratification and effective implementation... of the BWM Convention and of the ships’ biofouling guidelines”.



© Fednav Limited

II(F). Oil Spill Prevention

“That the Arctic states decide to enhance the mutual cooperation in the field of oil spill prevention and, in collaboration with industry, support research and technology transfer to prevent release of oil into Arctic waters, since prevention of oil spills is the highest priority in the Arctic for environmental protection.”

Lead State and Partners

PAME

PAME

EPPR

Status of Recommendation II(F)

PAME monitored and supported efforts of the Arctic Council Task Force on Arctic Marine Oil Pollution Prevention (TFOPP) regarding shipping related aspects.

PAME completed the report *AOOGG: Systems Safety Management and Safety Culture* which deals with preventing offshore oil and gas disasters and contains management systems recommendations for the full scope of operations including vessels operated by or for the industry.

EPPR presented in the RP3 Summary Report recommendations and opportunities for future cooperation.



© Håkon Kjallmoen

II(G). Addressing Impacts on Marine Mammals

“That the Arctic states decide to engage with relevant international organizations to further assess the effects on marine mammals due to ship noise, disturbance and strikes in Arctic waters; and consider, where needed, to work with the IMO in developing and implementing mitigation strategies.”

Lead State and Partners	Status of Recommendation II(G)
USA	<p>The USA submitted a paper and made a presentation at PAME’s September 2013 meeting on CetSound and CetMap which are web-accessible tools for comparing the location of underwater sound fields to the known distributions of whales to help in evaluating the impacts of human-induced noise on cetacean species. As follow-up, PAME member governments submitted to the USA points of contact for the exchange of information related to cetacean density and distribution information and the impact of underwater noise on marine animals.</p>
IMO	<p>In 2014, the IMO adopted voluntary Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life. The guidelines recognize that shipping noise can have short-term and long-term impacts on marine life; call for measurement of shipping noise according to objective ISO standards; identify computational models for determining effective quieting measures; provide guidance for designing quieter ships and for reducing noise from existing ships, especially from propeller cavitation; and advise owners and operators on how to minimize noise through ship operations and maintenance, such as by polishing ship propellers to remove fouling and surface roughness.</p>
IWC	<p>In March, 2014, the International Whaling Commission (IWC) held a “Workshop on Impacts of Increased Marine Activities on Cetaceans in the Arctic”. This workshop focused on the increasing shipping and oil and gas activities. The workshop recommendations were endorsed by the Commission at its September 2014 meeting. Priority recommendations outlined in the workshop report include:</p> <ul style="list-style-type: none"> • Having a standing IWC agenda item on the Arctic; • Increased co-operation with the Arctic Council by the Secretariat, starting in May 2015; • Increased co-operation with the IMO with respect to mitigation measures for threats to cetaceans and increased awareness of the issue of ship strikes and this importance of the IWC global ship strikes database; • Increased co-operation with stakeholders; and • Requesting the Scientific Committee to undertake a number of actions related to Arctic research.
	<p>Building upon the CetSound work mentioned above, the USA and European States held a workshop in April 2014 in Leiden, the Netherlands entitled “Predicting sound fields — Global soundscape modeling to inform management of cetaceans and anthropogenic noise.” This workshop was sponsored in part by the IWC. Workshop participants discussed regional and ocean-basin scale underwater sound field mapping techniques to provide support for decision makers seeking to characterize, monitor, and manage the potential impacts of chronic or cumulative anthropogenic noise on marine animals. The workshop produced a meeting report that includes recommendations directed to sponsoring international organizations and/or their science advisory groups to support the development and implementation of soundscape modeling and mapping tools needed to make informed management decisions. The report (SC/65b/Rep03) was presented to the 2014 meeting of the IWC’s Scientific Committee.</p>

© AECO/Tall Ship Company



II(H). Reducing Air Emissions

“That the Arctic states decide to support the development of improved practices and innovative technologies for ships in port and at sea to help reduce current and future emissions of greenhouse gases (GHGs), Nitrogen Oxides (NO_x), Sulfur Oxides (SO_x) and Particulate Matter (PM), taking into account the relevant IMO regulations.”

Lead State and Partners

PAME

Canada

Norway

Status of Recommendation II(H)

PAME monitored and supported efforts by the Arctic Council Task Force on Black Carbon and Methane and encouraged continued research at IMO on black carbon emissions, with respect to a technical definition of black carbon and appropriate methods and control measures. PAME also initiated the development of a bibliography of publications on ship air emissions (including black carbon) in the Arctic.

Canada made a presentation to PAME’s September 2014 meeting on current work to determine air pollution impacts from shipping in the Canadian Arctic. Preliminary results were shown and Canada will provide an update PAME on final results once available.

Norway submitted regular updates to PAME on IMO’s work with respect to black carbon.



THEME III — Building the Arctic Marine Infrastructure



© Sue Novoriny/WWF

III(A). Addressing the Infrastructure Deficit

“That the Arctic states should recognize that improvements in Arctic marine infrastructure are needed to enhance safety and environmental protection in support of sustainable development. Examples of infrastructure where critical improvements are needed include: ice navigation training; navigational charts; communications systems; port services, including reception facilities for ship-generated waste; accurate and timely ice information (ice centers); places of refuge; and icebreakers to assist in response.”

Lead State and Partners	Status of Recommendation III(A)
PAME	PAME invited member governments to identify and submit information to help fill gaps and suggest additional categories of information that may warrant inclusion in the Arctic Maritime and Aviation Transportation Infrastructure Initiative (AMATII) database.
PAME, ARHC	See entry under Recommendation I(A).
USA, Canada, Iceland, Norway, Sweden	These five Arctic States submitted an information paper (NCSR 1/27/3, 25 April 2014) to the 1st session of the IMO’s Sub-Committee on Navigation, Communications and Search and Rescue providing information on the World Meteorological Organization (WMO) Voluntary Observing Ship (VOS) Scheme in the Arctic and encouraging increased participation in the VOS Scheme by all flag States.
USA	USA submitted a paper to PAME’s September 2013 meeting on IMO’s Global Integrated Shipping Information System (GISIS) database and the AMATII database, requesting the PAME Secretariat to bring it to the attention of SDWG for appropriate action.
USA	Under the U.S. National Strategy for the Arctic Region Implementation Plan, the U.S. Committee on the Marine Transportation System (CMTS) was tasked with “Prepar[ing] for Increased Activity in the Marine Domain.” CMTS efforts consist of three phases: 1) Complete a 10-year projection of maritime activity in the Arctic Region by the end of 2014; 2) Deliver a 10-year prioritization framework to coordinate the phased development of Federal infrastructure identified through a government validated needs assessment by the end of 2015; 3) Develop recommendations for pursuing Federal public-private partnerships in support of the needs assessment and identified prioritized activities by the end of 2015. Phase I was completed in January 2015 and the report is available online .



© Clive Tesar/WWF



© Captain Patrick R.M. Toomey

III(B). Arctic Marine Traffic System

“That the Arctic states should support continued development of a comprehensive Arctic marine traffic awareness system to improve monitoring and tracking of marine activity, to enhance data sharing in near real-time, and to augment vessel management service in order to reduce the risk of incidents, facilitate response and provide awareness of potential user conflict. The Arctic states should encourage shipping companies to cooperate in the improvement and development of national monitoring systems.”

Lead State and Partners	Status of Recommendation III(B)
Canada, Norway	Canada and Norway submitted papers to PAME’s February 2014 meeting on the effectiveness of their routing and reporting measures in the Arctic Region.
Norway, Russian Federation	Canada and Norway submitted information on their present and planned satellite (AIS, radar and optical) and shore-based AIS capabilities to PAME’s February 2014 meeting.
Norway	The first Norwegian AIS-satellite was launched in 2010 and the second (AISSat-2) was launched in July 2014. The assumed lifetime of the first satellite was two to three years. After operating for four years it is still going strong, and the expected lifetime is now up to six years. The satellites provide the Norwegian Coastal Administration with valuable information on shipping traffic in polar areas and also provide information to the Norwegian Coast Guard and the Joint Rescue Coordination Centres.
USA	USA submitted a detailed information paper to PAME’s September 2013 meeting identifying and graphically depicting all IMO-approved routing and reporting systems in the Arctic Region.
USA	In July 2013, the U.S. Committee on the Marine Transportation System submitted a report to the President entitled <u>U.S. Arctic Marine Transportation System: Overview and Priorities for Action</u> calling for near- and long-term action to improve the U.S. Arctic marine transportation system to address anticipated increases in vessel traffic in the U.S. Arctic.
BIMCO	The Baltic and International Maritime Council (BIMCO) made a presentation to PAME’s February 2013 meeting on BIMCO’s shipping interests and activities as they relate to the Arctic and the AMSA Report.
Taksha University	Prof. Guy George Thomas (Taksha University) made a presentation on “Collaboration in Space for International Global Maritime Awareness: Stepping Stones to Arctic Surveillance” at PAME’s September 2013 meeting.



© Peter Ewins/WWF-Canada

III(C). Circumpolar Environmental Response Capacity

“That the Arctic states decide to continue to develop circumpolar environmental pollution response capabilities that are critical to protecting the unique Arctic ecosystem. This can be accomplished, for example, through circumpolar cooperation and agreement(s), as well as regional bilateral capacity agreements.”

Lead State and Partners

EPPR

EPPR

EPPR

EPPR

EPPR

EPPR

Norway, Russian Federation

Status of Recommendation III(C)

EPPR has been tasked to follow up and update the Operational Guidelines attached to the Agreement on Marine Oil Pollution Preparedness and Response. At every EPPR meeting the working group will undertake an annual update of the Operational Guidelines in order to maintain administrative accuracy. This update will be a standing item on every EPPR I agenda. The procedures for updating were approved by the SAOs at their 2013 fall meeting.

EPPR has finalized Phase I of the Arctic Region Oil Spill Response Resource and Logistics Guide (Arctic ERMA) project. Arctic ERMA is a mapping tool to aid emergency response. The final report on Phase I and Phase II will be a deliverable to the Ministerial meeting.

EPPR has, based on a request from the IMO, been involved in the development of the IMO in-situ burning guidelines and the chapter about Polar response.

The report “Arctic Environmental Hazards and National Programs” was finalized in 2014. The purpose of this document is to provide broad information on activities in the Arctic that pose a risk to the Arctic environment.

EPPR was asked by IMO to develop a Guide on Oil Spill response in ice and snow conditions. A final draft of the Guide was submitted to IMO in January 2014. An Arctic version of the Guide will be a delivery from EPPR to the 2015 Ministerial meeting.

EPPR approved at the EPPR II 2014 meeting the “Circumpolar Oil Spill Response Gap Analysis” project. The background for a gap analysis is the need for a better overview of oil spill response limitations and effectiveness under Arctic conditions in order to develop optimized prevention and response strategies in the Arctic Region. The project might be a first phase for a full circumpolar Environmental Risk Assessment.

EPPR approved at the EPPR II 2014 meeting the “Development of a Database of Arctic Response Assets” project. This will be a searchable oil spill response database with detailed information on Arctic specific equipment, vessels, dispersant stockpiles and application platforms, in situ burn boom, well containment and cap and flow devices, and other resources owned by or regionally available to all member states of the Arctic Council.

The Joint Plan attached to the agreement on Oil Spill response in the Barents Sea was re-signed in December 2014. The two countries have conducted combined SAR and Oil spill response exercises annually. In addition, Norway and Russia have concluded exercises on shoreline response, as well as other exercises to improve the oil spill preparedness and response in the Barents Sea.

Continued on the next page

III(C). Circumpolar Environmental Response Capacity *(continued from the previous page)*

Lead State and Partners	Status of Recommendation III(C)
USA, Canada	Canada and the USA continued their cooperation to implement the Canada-U.S. Joint Contingency Plan for oil spills in the Beaufort Sea, an ongoing program of joint exercises.
USA, Russian Federation	The Russian Federation and the USA continued their coordination, under the Russia-US Joint Contingency Plan, to enhance oil pollution preparedness and response in light of increasing vessel traffic and resource extraction, including conducting either a joint response seminar or exercise by the end of 2015.
Canada in cooperation with EPPR	The Canadian Coast Guard hosted the first international exercise under the new Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic during May and June 2014. The virtual exercise tested components of the Agreement’s Operational Guidelines including practice with respect to: notifying each other of an oil spill; requesting assistance; and, discussing the movement and removal of resources across borders.
Norway	An Environmental Risk Assessment and an Emergency Response Analysis was conducted for Svalbard and Jan Mayen. The results from these analyses will be used to improve the preparedness for oil spill response in the area.
USA	For the U.S. National Ocean Policy Implementation Plan, the Alaska Regional Response Team developed an Arctic Logistics Concept of Operations (CONOP) Overview of Project. The purpose of the project was to develop a concept of logistics for a Spill of National Significance (SONS) in the Arctic that considers the limited capabilities of the region, the challenges of time and distance, industry needs and Tribal considerations that supports the National Incident Commander and Federal On-scene Coordinator in ensuring a coordinated and effective response. This logistics framework should identify federal government requirements, sources of supply, interagency resource ordering processes, deployment and demobilization strategies.



© Martin Lipman/Students on Ice

III(D). Investing in Hydrographic, Meteorological and Oceanographic Data

“That the Arctic states should significantly improve, where appropriate, the level of and access to data and information in support of safe navigation and voyage planning in Arctic waters. This would entail increased efforts for: hydrographic surveys to bring Arctic navigation charts up to a level acceptable to support current and future safe navigation; and systems to support real-time acquisition, analysis and transfer of meteorological, oceanographic, sea ice and iceberg information.”

Lead State and Partners	Status of Recommendation III(D)
PAME, ARHC, IHO	See entry under Recommendation I(A).

